598.206
IND
v.21
1943

UNIVERSITY OF
ILLINOIS LIBRARY
AT URBANA CHAMPAIGN
NATURAL HIST SURVEY

598.206
IND
1943

Nat Hist Surv

Canal Home

Bequeathed to us for our future headquarters by Alice Gray. In grateful acknowledgement we dedicate this issue of The Indiana Audubon Year Book to her memory.

THE LIBRARY OF THE
MAY 19 1970
UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

Indiana AUDUBON YEAR BOOK 1943

NATURAL HISTORY SURVEY
MAY 25 1970
LIBRARY

Digitized by the Internet Archive
in 2025 with funding from
University of Illinois Urbana-Champaign Alternates

https://archive.org/details/indianaaudubonqu2119unse

The

AUDUBON YEAR BOOK

VOLUME XXI

1943

Published by the

INDIANA AUDUBON SOCIETY Inc.

For Conservation of Bird Life

Earl Brooks, Editor - Noblesville, Ind.

Membership Dues

$1.00 Per Year Entitles Member to Year Book

Mail Check to Margaret Umbach, Sec'y - Treas.
2526 East Drive, Fort Wayne, Indiana

The Indiana Audubon Society, Inc., as such will not vouch for the scientific accuracy of the articles appearing in its Annual Year Book.

CONTENTS

Title Page		1
Contents		2
President's Message		3
Alice Gray	Earl Brooks	5
The Canal House	" "	6
Mary Gray Bird Sanctuary	" "	8
Operating a Bird Sanctuary	" "	10
Necrology		16
A Bird Quiz		23
Answers to Bird Quiz		26
Ornithology Under Eisenhower	T Sgt. Robert C. Geake	28
The Status of the Prairie Chicken In Ind., O. D. McKeever		29
Planning for Postwar Conservation of Birds, Howard Michaud		35
The Fed. Wildlife Research Program in Ind., Wm. B. Barnes		41
Editorial Notes		43
Eastern Raven Report for Ind.	Wm. B. Barnes	44

OFFICERS

Dr. M. S. Markle	Immediate Past President	Richmond
F. J. Breeze	President	Delphi
Dr. Milton Baumgartner	President-Elect	Indianapolis
John Gottschalk	1st Vice President	Bloomington
Malcolm Bundy	2nd Vice President	Atlanta
Miss Margaret Umbach	Sec.-Treas.	2526 E. Drive, Fort Wayne
Dr. Earl Brooks	Editor	Noblesville
Miss Margaret R. Knox	Historian	Indianapolis

BOARD OF DIRECTORS

Term Expires 1944	Term Expires 1945	Term Expires 1946
F. J. Breeze	Dr. M. S. Markle	Dr. O. B. Christy
Roger Roberts	Dr. Earl Brooks	Dr. Milton Baumgartner
Mrs. H. H Coburn	Sidney R. Esten	H. H. Michaud

TRUSTEES OF THE ENDOWMENT FUND

Mr. Henry A. Pershing — Miss Margaret Umbach

Miss Margaret Knox — Mr. Wm. A. Myers

(Miss Margaret Umbach in whose custody the endowment fund rests is fully bonded).

SUGGESTED PARAGRAPH FOR YOUR WILL

I hereby devise and bequeath to The Indiana Audubon Society, Inc., (Here state sum of money, or description of property).

PRESIDENT'S MESSAGE

Fred J. Breeze

On July 5th, I spent several hours with Mr. Finly Gray in walking and riding over the 600 acre tract that constitutes the gift of Alice and Finly Gray to the Indiana Audubon Society, Inc., and which is to be known as the Mary Gray Bird Sanctuary. Mr. Gray has a life interest in this land, but it can be put into immediate use by the Audubon Society for protecting and studying bird life.

It is a tract of beautiful hills, valleys, and clear streams. In some places are stands of virgin timber, and in other places are beautiful stands of young trees. Near the beautiful summer place of the Grays is a large grove of planted evergreens. All in all it is a fine refuge for birds, and under proper management it can be developed into one of the leading bird sanctuaries of the Middle West. It will, however, take considerable time to formulate plans for its complete utilization. Meantime Mr. Gray, who is a successful business man, as well as a prominent lawyer, will care for this land and will do many things to improve it as a refuge for the birds. He told me that the fields will no longer be cultivated, but will be allowed to go back to natural conditions. We can rest assured that this sanctuary under Mr. Gray's supervision will be well protected and that natural forces will be allowed to increase its usefulness as a bird haven.

Some definite project should be undertaken at the earliest possible date by our Society, so that a fuller use of the area can be made by all persons who are deeply interested in bird life.

Plans are now under way for an October rally at the Mary Gray Bird Sanctuary by the members and friends of the Audubon Society.

Alice Gray
1865 - 1943

Mary Gray
1902 - 1940

ALICE GRAY

An Appreciation

Alice Green was born in Fayette County, February 2, 1865. She was married to Finly H. Gray in 1901 to which union one exceptionally talented and promising daughter was born. When Mary, at the age of twelve years, was mysteriously stricken beyond hope of recovery, Alice Gray, as a solace, went back to her study of art, of which she had from early life been a student.

While in Washington with her husband, as Congressman, she spent most of her time in the art galleries of the Capital and painted a number of Washington scenes and landscapes. Many of these paintings were taken back home by the wives of members of Congress as reminders of their stay in Washington. Other pictures were brought home and adorn the walls of the house where she lived until her death.

She also intrested herself in pioneer history, and especially, the Inland Waterways Movement, begun by Washington on the Potomac in 1789, and which finally extended to the building of Whitewater Valley Canal in Indiana in 1830.

This led her to recognize the building on Fourth Street, Connersville, erected for the Canal office and clearing house, in 1842, as a historical landmark in Connersville and Fayette County.

She made several efforts to have this house purchased, restored and preserved. Failing in all such efforts, and rather than see it become commercialized, she enlisted the sympathy of her husband in the preservation of this historic building. And, she finally purchased and restored the structure, and furnished it in keeping with the time of its erection, and then occupying it as their residence, thus providing for its proper care and maintenance.

Mrs. Gray's talents were many and varied. In one of her first letters to me she said, "Since I can remember, I have loved trees, birds, and flowers." I later learned this to be quite true. Her feeding station at the rear of her town home was evidence of her concern for her feathered friends. The many bird houses and flowers all about their country home were also evidence of her love for the beauties of nature.

She wished that these should always be perpetuated as a memorial to her daughter Mary. She chose the Indiana Audubon Society, Inc., to carry out this program. And, as evidence of her desires, she willed the Canal Home with its furnishings and two hundred and fifty-four acres of land for such memorial to be

This report was given by your Editor during the annual meeting and is published so that the members not attending the meeting will be informed of the Gray bequest.

known as "The Mary Gray Bird Sanctuary" of the Indiana Audubon Society, Inc., and provided for their maintenance. They are, however, subject to the life estate of her husband, Finly H. Gray. Incidentally, Mr. Gray was very sympathetic to her plans and assisted her in every way he could to carry out her cherished wishes; that is, a perpetual, living memorial to their lovely daughter.

It was with deep appreciation of her faith in the Indiana Audubon Society, Inc., that the Board of Directors, on June 20th, 1941, accepted this trust with suitable resolutions. And, we now in an humble way also recognize this opportunity to further bird protection; and, we therefore, dedicate this Year Book to her Memory.

THE CANAL HOUSE

Alice Gray, wife of former Congressman Finly H. Gray, and a life member of the Indiana Audubon Society, passed away February 16, 1943 at her home in Connersville.

By her Will, probated in the Fayette County Circuit Court, Connersville, Mrs. Gray willed their home, the Canal House, with all the contents, to the Indiana Audubon Society, Inc. subject to the life estate of her husband.

This is a historic building, purchased, restored and furnished by Mrs. Gray with furniture, draperies and decorations of the style and period of one hundred years ago, and all at a cost of more than $14,000.00.

From a booklet published by Mrs. Gray on The Canal House I quote:

> "The old colonial house (111 East 4th Street, Connersville, Indiana) stands on part of the original plot laid out by John Conner."
>
> "It was built in 1842 by the Whitewater Canal Company to be used as a clearing house. With its classic columns, it has been considered one of the finest specimens of Greek architecture in the State. With little or no embelishment it has a simple dignity of form, regardless of setting, and is as much admired today as when it was built."
>
> "The columns are unusual, being of poplar wood fluted. I like to think the tall trees grew in Fayette County, and the columns turned out of the Old John Conner mill. The steps originally swept across the entire front, flanked by two large stones. It still has the two great vaults constructed of stone and iron, and I am glad to say that they have been undisturbed, and remain just as they were built."

"Heavy double doors enter the vestibule, and a massive single door opens into the hall extending the length of the building. The door at the back of the hall, that has been so much admired, has the arched fan light above, and four panel double doors, all of leaded glass. This gives additional light and provides an illusion of even greater distance to the long wide hall. The main floors have been relaid in hard wood. No doubt, the old floors had become greatly worn by the treading of feet throughout the many years. In the rooms upstairs, however, we find the original flooring — wide boards of white ash in good condition."

"There are six large rooms in all, twelve feet high, with bath and closets, a large hall above and below, with a basement under the entire building. The massive wood work is finished in ivory. The walls have been recently redecorated in colonial style, and furnishings are all of antique."

"Mr. David Lynn, the architect of the Capitol, describes the house from a picture, as follows:

> 'The structure is distinctly Greek in character, based on an adaptation and modification of the original doric order, which these people developed and used extensively in the design of their buildings. An outstanding example of this order is the Parthenon at Athens. During the period in which this building was constructed, the architects in this country were influenced by the classical precedent, no distinctive American style was then developed.
>
> It is evident that the architect in this instance chose the simpler form of the doric order, no doubt with the thought in mind that dignity and strength were more symbolic of the early growth of the country and more in keeping with the environment.' "

"At one time, it was the property of Samuel Parker, a gifted lawyer and orator of the state. About 1854 it became the property of the Savings Bank of Indiana. Elisha Vance, L. D. Allen, and G. C. Stevens were associated in the bank. Paper Certificates were issued, bearing the date of August, 1854. Some of these are still in existence in Connersville." (Some have been collected by Mrs. Gray and are in the invoice of the home furnishings.)

"In 1857, Elisha Vance, an attorney, bought the property and at his death, it reverted to his son, Dr. S. W. Vance, who converted it into a dwelling and resided there for many years. Their children, Charles, Shelly, and Portia Vance Hanson were born and reared in the house."

"Mrs. Hanson was married in this house, and her son was born there. For seventy-nine years it remained in the Vance family. In 1936 it became the property fo Mrs. Alice Gray."

From the Foreword of a booklet on the Canal House by Mrs. Gray:

"When I learned the Old Canal House was for sale, I suddenly became obsessed with the idea of owning it and restoring it. It seemed to me that a house with so much history back of it should be protected and preserved and now, long may the old house stand as an inspiration to the people of Fayette County and Indiana."

The members of the Indiana Audubon Society, Inc., deem it a pleasure and honor to have entrusted to them the safe keeping of this historic landmark as our State Headquarters,—thus may the dreams of Mrs. Gray ever remain a reality.

MARY GRAY BIRD SANCTUARY

of The Indiana Audubon Society, Inc.

By Mrs. Gray's will, she also made a gift to the Indiana Audubon Society of two hundred and fifty-four acres of land in Fayette County, to be developed, used and maintained as a bird sanctuary. It was provided that the Canal House in Connersville is to be used in connection with the land and as a State Headquarters for the Society.

Mr. Gray holds the title to the remaining part of the six hundred acre tract but has made no disposition of his part up to this time. This is in keeping with the policy observed by Mr. and Mrs. Gray for certain proper reasons.

Mr. Gray is in full sympathy with, and is an enthusiastic co-worker in the development of this land as a bird sanctuary. He has laid out horseback roads and footpaths connecting and extending to the whole of this six hundred acres, all to be used and developed together as one body of land.

Mr. Gray has also invited the Board of Directors to become acquainted with his suggestions and plans for this land, developing the sanctuary.

He has also asked the Board of Directors to assume the obligation of maintaining an ancestral cemetery located on the remaining part of this tract of land remaining in his name. In consideration of such gift by him, the Board of Directors has assumed the obligation and assured him by certified copy of a Resolution approved for this purpose. The Board of Directors is equally assured of the gift of Mr. Gray's part and the whole six hundred acre tract is to be developed as a bird sanctuary by this Society.

This tract of two hundred and fifty-four acres of land is seven miles Southwest from Connersville. There is now about

one hundred and sixteen acres of this in woods, approximately eight acres of which have recently been set principally in conifers.

The tract is located in the extreme south of the Tipton till plain and thus the soil is much the same as we have throughout the most part of central Indiana. The biota is also like that of most of central Indiana. However, immediately south of the tract is the Illinois till and we see biotic stragglers from that environment extending their ranges into this area.

We enter the grounds from the East over a winding gravel road through the woods, across a small branch for 1,500 or 2,000 feet to headquarters home. The road extends another fifteen hundred or more feet to two other dwellings.

The headquarters home was for many years the summer home of Mr. and Mrs. Gray. It is a comfortable cottage, with a full basement having a commodious fireplace, with an outside entrance and highly suitable for a Sanctuary Naturalist to use as a library, museum and Sanctuary workshop. In the front yard is a lily pond fed by springs. Flowers and shrubbery are plentiful throughout the grounds.

Small streams run entirely across the farm and only rarely, in extreme drought, become dry. Large springs feed a small pond near the house and they furnish enough water to enlarge this pond .

Much of the woodland is virgin, some second growth, and has never been pastured, and most of the wild flowers known to this section are present. Thousands of grand old trees abound in the woodland.

Several pasture fields are dotted with brambles and shrubs, affording nesting sites and suitable cover for many species of birds.

Sufficient water is present for bird attraction. However, there is not sufficient to attract water fowl. This will be, in the main, a sanctuary for song birds and upland game birds; which in itself will be sufficient reason for their sanctuary, even if water fowl and shore birds will not find suitable habitat for their stopping there.

Operating a Bird Sanctuary

Since it has been known Indiana Audubon Society was to have a Bird Sanctuary to operate, many questions have been asked concerning its operation. I have made some investigations as to how other sanctuaries are operated and will enumerate some of the possibilities. Needless to say, much will depend on amount of money your Board of Directors will be able to appropriate for the operation; and as the popularity of the sanctuary develops, there will arise additional activities.

The operation of a bird sanctuary can be accomplished with little, or practically no work, but its effectiveness will be enhanced materially by the expenditure of some money. And, the more that is put into it the more effective it will be, and, the more the public will benefit by its program. The existing bird population can be materially increased by first, wise planting of food trees and shrubs, supplementing the present flora; second by planting cover; artificial feeding will add materially, especially, the winter residents. This can be accomplished by spot planting of feed crops throughout the sanctuary; planting food trees, shrubs, and plants, and also, maintaining feeding stations.

Additional residents may be attracted by providing nesting boxes, and adding suitable nesting areas to those now existing.

Providing watering areas at various points will add further attractiveness to the birds taking up residence in the sanctuary. Large ponds will also attract waterfowl and marshy areas will attract still others. This sanctuary will not be able, except in a limited way, to accomplish much along these lines, as there is no large body of water, and no great area can be developed artificially.

Predatory control, administered wisely, will also add to the birds, safety, and thereby, offer sanctuary to their residence.

First,there must be a Sanctuary Naturalist to supervise its operation and act as host to the visitors. There should be gradually built up a Sanctuary Library and Museum. In this, friends and members can be of considerable help.

At this point I wish to announce that Mrs. S. E. Perkins III, has authorized me to state that she is donating to the Indiana Audubon Society, Inc. the ornithological library of her late husband to this cause, as a memorial to him and his work with the Society. This library will be available when we are ready for the same.

On behalf of the Society I wish to express to her our sincere thanks for this valuable gift and may it grow into a large and worthwhile working and scientific library of ornithological interest.

Members and friends of the Society are solicited to contribute

to this cause. Material desired are mounted birds, bird skins, nests, eggs, bird periodicals such as Bird-lore, Auk, Bird Banding, Wilson Bulletin, Conders, in fact any bird periodicals, pamphlets and bulletins, bound books, sectional book cases, bird photographs, posters, colored prints, lantern slides; in fact bird material of any character suitable for display, research, study or reference. Get your donations ready and drop me a card that you have a contribution and you will be notified when we are ready for the same and instructions for shipment. A suitable donors' register will be maintained giving you credit for your contribution.

It will be part of the Naturalist's duties to keep a careful record of daily happenings, making a census of species observed, nesting census, migrational data, life history studies, nesting habits. Winter feeding, laying out trails, conducting bird walks, answering questions, making signs, operating feeding stations, labeling trees, shrubs and flowers, lecturing to groups, patrolling sanctuary, and controlling predators are only a few of the many operations that could be performed. Of course, everything cannot be begun at once.

The first consideration is to develop the place so that it is truly a Bird Sanctuary. And, second, make it possible for bird lovers to profit thereby. Birds first, public second.

How This Came About

In 1933, when Mr. and Mrs. Finly Gray left for Washington, D. C., for the session of Congress, there was a few line paragraph article in one of the Indianapolis papers stating they had left for Washington, and also stating Mrs. Gray would miss having her birds and flowers inasmuch as she was a lover of them. Seeing this, and realizing she was not a member of our Society, I wrote her a letter inviting her to join the Indiana Audubon Society. Upon receipt of this, under date of March 6, 1933, she answered as follows:

> "I thank you very much for the invitation to be a member of the Indiana Audubon Society. Since I can remember I have loved the trees, birds and flowers. Just now I haven't time to be active, but am ready to help all I can. I am enclosing $5.00 for a sustaining membership."

Following this she discussed our having chosen the Cardinal as our State bird, which invited a running correspondence on matters of Audubon nature. She asked numerous questions of our organization, and the work, but never hinted as to what was developing in her mind. The next year she paid for a life membership.

Here, we wish to quote the first two paragraphs from an article written by Mrs. Gray and published in one of the Washington, D. C. newspapers in 1934. The title of this article is "Our

Friends of the Air."

"Two surviving mementoes of the lost Eden are the flowers of the Sun and the birds of God. Both retain the innocence of their primitive garden days and both perpetuate its exquisite charm. One in the pure beauty of still life. The other in the endless variety of grace and motion and their wealth of suggestion to the world of mankind. There are few people who are not interested in birds though so many know but little about them, but an interest in bird life, once quickened, is destined to live always. The more I study the birds, the more each one of these little hosts of the air becomes a source of pleasure, a curiosity, a mystery to me. I no longer feel alone in the country, those wings are no longer only feathers, those cries no longer only noises; they are arrivals, wayfarers, friends.

The study of birds has opened for me a treasure about an unknown world, and in knowing it better it has deepened in me the feeling of the mystery of life."

This was quoted to show the workings of her mind along the lines which led up to her relations with our Society and the gift of the Sanctuary.

In December 1935 I issued the first questionnaire to our membership and question No. 11 in that questionnaire was as follows: "Do you know of any one, or, any plan that will enable us to add to our endowment fund?" To this question I received many suggestions and letters, but for obvious reasons I am only discussing this one specific case.

Under date of December 26th, 1935 I received the following letter from Mrs. Gray:

> "I am so glad you sent me the questionnaire. I tried to see Miss Knox when I was in Indianapolis and failed. I do have a plan that would help add to the endowment fund, and when I come home next spring, I want to see some member at Indianapolis and talk to them about it. I don't want any publicity about it and don't care to write it, but am anxious to see some member and talk it over."

Our correspondence continued. We had planned tentatively to go to the east to visit our daughter which I incidentally stated in one of my letters. Under date of March 17th, 1936 I received the following letter from Mrs. Gray:

> "When you go to visit your daughter, if you are in Washington, Mr. Gray and I want you to be sure and look us up. We have a bird plan we would like your opinion about."

We did not, however, make the trip contemplated and this meeting never materialized. In subsequent correspondence she

hinted very vaguely what they were contemplating. On September 23rd, 1936 I received a letter from Mr. Samuel Perkins III quoting, "Yesterday Mr. and Mrs. Finly Gray of Connersville called on Miss Knox and myself relative to the matter of their proposed gift to the Indiana Audubon Society of which you have had some conversation with one or both of them. They desire that a number of well known Indiana Audubon workers and their husbands and wives, not to exceed twelve persons, come to their place on October 12th for dinner and spend the day with them, to become better acquainted, etc."

The following officers accepted this invitation:

Dr. and Mrs. L. A. Test
Mr. and Mrs. Frank Evans
Mr. and Mrs. Harold Zimmerman
Dr. and Mrs. M. L. Markle
Mr. and Mrs. S. E. Perkins III
Dr. and Mrs. Earl Brooks

A pleasant day was spent with them but no mention was made of the proposed gift.

In a few days they asked my return to Connersville to further discuss the matter. They took plenty of time to consider the matter and in all I made, at their request, many trips before they said they had finally reached a decision as to how they desired to make the gift. Under date of January 1st, 1940 I received the following letter,

> "Mr. Gray and I have at last completed our wills. I am enclosing them and want you to look them over carefully and let us know if they are all right, etc."

They were gone over by Mr. Roger Roberts, our attorney and director, and myself, and returned with our thanks and no suggestions of change. They signed them during January, 1940.

On June 20, 1941, the Board of Directors met in Indianapolis and unanimously passed the following resolution:

WHEREAS Finly H. Gray and Alice Gray, his wife, of Connersville, Indiana, have informed the officers and directors of this Society of their intention to make a provision in their wills for a Bird Sanctuary to be known as the "Mary Gray Bird Sanctuary", such Sanctuary to be operated and maintained by this Society, and

WHEREAS Alice Gray has also made known her intention to provide a house for a Library, Museum and Headquarters for the operation of such Sanctuary and as State Headquarters of this Society, and

WHEREAS it is their proper desire to impose certain restrictions in the use of all of said property and to also make

certain requests as to how the same shall be operated and maintained, and

WHEREAS the officers and directors of this Society have been verbally informed as to such restrictions and requests and believe them each and all just and proper and for the benefit and safeguard of such Sanctuary and its purposes, and

WHEREAS such officers and directors have given such matters due and proper consideration and believing that they understand the purposes of such gift and the responsibilities, liabilities, and obligations that would be assumed by this Society by the acceptance thereof,

NOW, BE IT RESOLVED

1st. That such Bird Sanctuary and Library, Museum and Headquarters in connection therewith will be a distinctive and lasting Memorial for Mary Gray and that Finly H. Gray and Alice Gray will be honored and revered more and more through the years to come for making such Memorial possible.

2nd. The said Bird Sanctuary shall always be known as "Mary Gray Bird Sanctuary" and shall be maintained and conducted under such name and no other, and shall be used by said Indiana Audubon Society, Inc., to further and carry out the objects and purposes for which said Society is organized.

And the building in Connersville known as the "Canal House" and provided for in the Will of said Alice Gray for a Bird Library, Museum and State Headquarters for said Indiana Audubon Society, Inc., shall be known, operated and conducted as a part of said "Mary Gray Bird Sanctuary."

3rd. This Society accepts the responsibility and obligation of maintaining and preserving the ancestral burying grounds known as the Ronald-Gray Cemetery on the land included in said Bird Sanctuary and of maintaining and perpetuating the existence of such cemetery with the life and existence of said Indiana Audubon Society, Inc.

4th. That this Society is highly honored by being given the privilege of operating and maintaining such Memorial.

5th. That this Society does now hereby agree to accept such gifts, devises and bequests and to abide by all restrictions in regard to the same and to respect and follow all requests made by Finly H. Gray and Alice Gray, regarding such memorial.

I, Dr. M. S. Markle, President, and I, Miss Margaret Umbach, Secretary, respectively, of the Indiana Audubon Society, Inc., as such President and Secretary, hereby certify that the above is a true copy of the resolution passed by unanimous vote of the

Board of Directors of said Indiana Audubon Society, Inc., at a special meeting of said Board called for the purpose of considering and acting upon said resolution and held at the State Library in the City of Indianapolis on Friday, June 20, 1941.

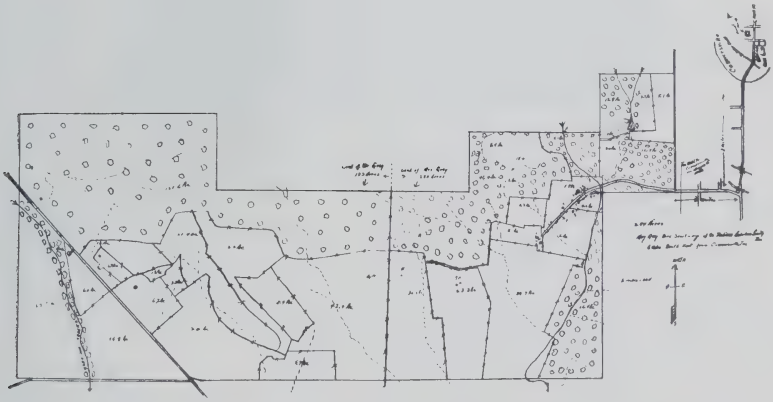
M. S. MARKLE,
President of Indiana
Audubon Society, Inc.

MARGARET UMBACH,
Secretary of Indiana
Audubon Society, Inc.

(SEAL)

As stated before, according to the will of Mrs. Gray, her husband retains a life estate, both in the Canal House and the 254 acres of land and they will not be available for the public nor the membership for the time being. Plans are being worked out for our Sanctuary program and the membership will be notified at the proper time.

Earl Brooks, Noblesville.



STANLEY COULTER

Ningpo, China
June 2, 1853

Lafayette, Indiana
June 27, 1943

Dean Stanley Coulter was one of the founders of the Indiana Audubon Society, which had its origin in Indianapolis in 1898. Later he served as president of that society for eight years and was one of the directors for many years.

By his writings and lectures he did valiant service in helping the people of Indiana to appreciate the importance of sane conservation of natural resources. Not only did he work for conservation of soils, minerals, and forests; but he also urged the preservation of wild life and all the forms of beauty in the landscape. When the Indiana Conservation Commission was established in 1916 he was made a member and from 1925 to 1932 he was its Chairman. During these fruitful years in Conservation activities he was the outstanding leader.

As a biologist Stanley Coulter won national fame, and as Dean of Science at Purdue he did much to make his university one of the leading scientific schools of our Country. As Dean of Men at Purdue his counsel, backed by Christian living, was a lasting benediction to thousands of students. After retirement he was active in many of the state-wide activities for social betterment.

Within the space of less than a year the Indiana Audubon Society has lost three of its past presidents, — Louis A. Test, Martin L. Fisher, and Stanley Coulter. All three were great men on the Purdue campus and in the meetings of the Audubon Society. Each has followed the "onward trail" beyond our sight; but it is our faith that in a world of limitless space, endless time, and infinite beauty and goodness their trails will meet, and that these companions, in joyous fellowship, will live on in an unending study of God's universe.

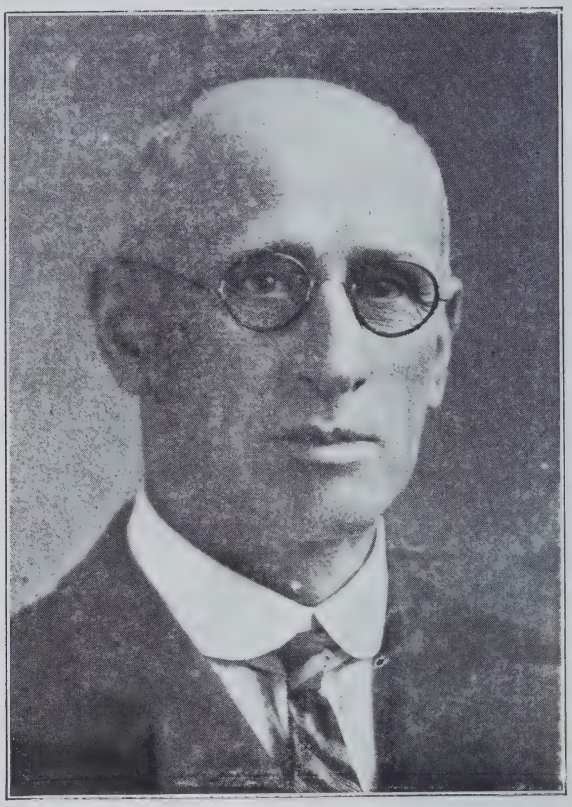
Fredrick J. Breeze, Delphi.

CHAS. A. GRIFFIN

1872 1943

Chas. A. Griffin was born at Casey, Ill. Sept. 15, 1872. He came when a boy with his parents to Carlisle where he endeared himself to every one in years of business contacts. He found pleasure and pastime in his love of nature and had trees, flowers and birds which he loved about his home. In his last illness he called the attention of his physician to a brown thrasher outside his window. With work and thrift he had acquired farming interests which he greatly enjoyed. A basket of white dogwood flowers and also one of red tulips he had planted were among the profusion of floral offerings at his home where the simple and beautiful last rites were held. The Audubon Society has lost a valuable citizen, but not before he had taught us the joy of simple things which we may all have if we seek them.

Elizabeth Gilliland, Carlisle.



MARTIN LUTHER FISHER

1871 1942

Dean Fisher graduated from Purdue University in 1903 and was that same year made a member of the Agronomy staff of the school of Agriculture. From that time to his retirement in 1942, as a teacher, administrator, and counselor, he served the school with loyalty and efficiency.

In 1926 at the retirement of Dean Stanley Coulter, Prof. Fisher was made Dean of Men. In this capacity, his fine personality and his strength of character made a lasting impression for good on the student body.

The following quotation is from a biographical sketch of Dean Fisher which was written by a faculty committee and read to the faculty on Jan. 25, 1943: "His training as an agronomist gave him an interest in botany, and through all the years the identification of plant species was a source of interest and pleasure to him; but above all was his interests in birds.

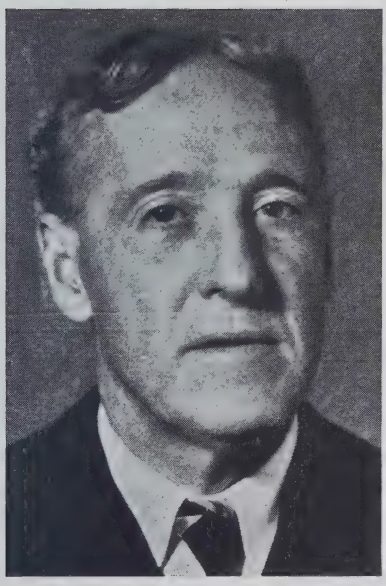
Numerous summer school students enjoyed his guidance on early moring bird trips."

Prof. Fisher was a member of many scientific societies. At many of our annual meetings he was a gracious leader of our early morning bird studies. He has prepared many excellent papers for our Year Book and served as our President during the years 1919, 1920 and 1921. Mrs. Fisher frequently came with her naturalist husband to our meetings. To her and the daughter we extend our deepest sympathy.

Our friend, Martin Luther Fisher, with eager steps has followed a trail of flowers and birds far beyond our vision. Some day, through God's grace, our trails will meet again.
Fredrick J. Breeze, Delphi.

LOUIS AGASSIZ TEST

1875 1943



The Indiana Audubon Society lost one of its most outstanding authorities and one of its most devoted member in the death of Louis Agassiz Test on April 22, 1943, at the home of his son, Dr. Frederick Test, in Ann Arbor, Michigan.

For the last three years, since his retirement from the faculty of Purdue University, Dr. and Mrs. Test have been living on their ranch near Lindsey, California. In March of 1943 they left California to visit their son and daughter in the midwest. Dr. Test suffered a heart attack on the train coming into Chicago and remained in the hospital in Chicago for several weeks. Then, apparently much better, he was taken to his son's home in Ann Arbor where he died unexpectedly the next day.

Although he was a chemist by profession, Dr. Test was widely known as a naturalist and ornithologist. For several summers he taught bird study at the Winona Summer School at Winona Lake, Indiana. He

was very active in the Audubon Society, where his absence for the last few years has been greatly felt. For many years he was a director of the society, as well as holding other important offices. including the presidency from 1939 to 1940.

His activity at West Lafayette in bird banding for the Biological Survey was outstanding. For many years he was first in the state in number of birds banded, and banded more than one thousand birds a year. In connection with his banding work. he carried out several excellent research problems on various species of birds. Many articles on birds have been publishd in the Indiana State Audubon Bulletin and in the Indiana Academy of Science Bulletins. Dr. Test belonged to many scientific societies. Several years ago he visited Honduras with his son Fred and collected many bird specimens. He catalogued the Amos Butler bird collection of skins which is now at Purdue University.

Audubon members who have known Dr. Test and hiked with him will miss him greatly in the years to come. His intense interest and enthusiasm for all types of bird study and his keen understanding of both scientific and human problems endeared him to all. He was untiring in his work and in his hobbies and was always willing to take time and energy for helping others. The memory of Dr. Test as a man and as a scientist will long be an inspiration to all who knew him.

Sidney Esten, Indianapolis.

JOHN E. FREDRICK

1865 1943

In the passing of Mr. John E. Fredrick on March 3, 1943, the Indiana Audubon Society, Inc. has lost one of its few Life Members. It was more than ten years ago that Mr. and Mrs. John E. Fredrick became Life Members of the Indiana Audubon Society, and at the same time they enlisted each one of their four children as an Active Member, thus showing not only a deep interest in the work of the Indiana Audubon Society, but also expressing a desire to acquaint younger members with the work of the Audubon Society.

The Indiana Audubon Society is proud to have had as one of its members, Mr. John E. Fredrick, whose life record shows that it was devoted to the "faithful, patriotic, and unselfish service to the people of Indiana."

To Mrs. Fredrick and to the one son and three daughters who survive, the Indiana Audubon Society expresses its deepest sympathy.

Margaret R. Knox, Indianapolis.

MARCUS WARD LYON, JR.

Feb. 5, 1875 May 19, 1942

With the death of Dr. Marcus Ward Lyon, Jr. the Audubon Society has lost one of its most distinguished members. He was the author of many biological and medical publications, as well as a most valuable book, "Mammals of Indiana."

Before coming to South Bend in 1919, to be associated with its Clinic as pathologist, he had served as aid and assistant curator of the Division of Mammals, U. S. National Museum (1898-1912). A man of scientific bent and full of zeal for the importance of accurate tabulations, he notes that, "Unlike birds, mammals . . . do not appeal to man's esthetic sense . . . Field observations and records . . . are largely unknown in marked contrast to such observations in birds." Accordingly he made it his special work to put into one volume correct information beginning with the first printed records of serious observations on Indiana Mammals (1839) and coming down to a complete list of mammals living in the state today: 69 species and subspecies, with 14 of the former known from the Pleistocene deposits. But one zoological sequence is followed in the list, even the Pleistocene forms being placed in their regular taxonomic order of classification and nomenclature.

His life was one of rich accomplishment. The Indiana Audubon Society was honored by his cooperation and enthusiastic support.

Mary M. Perkins, Indianapolis.

WILSON MATTIX

1879 1943

During the early spring of 1936 while still a member of the educational staff of the Indiana Conservation Department, I attended a meeting in a small town in northwestern Indiana. After the formal program had ended there was the usual round of questions and answers, most of which, I noted were either being asked or answered by one individual. It was immediately evident that he had an unusually broad acquaintance with nature, and what is more important, it was equally apparent that he had an understanding and appreciation of the out of doors seldom encountered.

This was my introduction to Wilson Mattix. Subsequently I met him on numerous occasions, and my early impression persisted: that he was a man truly interested in the welfare of our natural heritage.

His early environment helps to account for his continued in-

terest in wildlife, for both his parents were keen students of nature. Mr. Mattix contributed numerous articles to local periodicals on nature subjects and was recognized as an authority on plants and animals in his home community. He had been a member of the Audubon Society for several years, and attended the 1942 meeting held in Richmond.

The Audubon Society has lost a faithful and valuable member; wildlife a staunch and trusted friend.
John Gottschalk, Bloomington

Fredrick J. Breeze

1873 **1943**

Mr. Breeze, who has lived in Delphi since his retirement from the teaching profession in 1941. A native of Welchpool, Wales, the teaching profession in 1941, died on October 24, 1943, after a short illness. A native of Welchpool, Wales, Mr. Breeze came with his parents to America in 1880 and settled in Indiana. He spent his High School days in Delphi and later received his degrees from Purdue and Indiana University.

He taught for several years in various high schools of the state and for twelve years was head of the science department of Ball State Teachers College. For eight years was the editor of Science publications of The American Book Company of New York. He taught at North Side High School and lectured in the Indiana University Extension division at Fort Wayne.

Mr. Breeze was a member of many scientific Societies. His long membership in the Indiana Audubon Society made him one of our most beloved members and two years ago he was honored by being made our President, an office to which he devoted much of his time. He had taken an active interest in the future development of the Mary Gray Bird Sanctuary and had a very definite interest in it, and which as he often told me was to be his main interest the remainder of his life.

His passing leaves a real void in the development of that project for our society and leaves us now with the task of finding another to actively take up that task.

Mr. Breeze was first a teacher, and his influence will be a lasting monument to his memory. He was a friend to everyone with whom he came in contact and we will long cherish him as such. Our Society has lost in him a valued member. We extend to his widow and to his son our heartfelt sympathy.
Earl Brooks, Noblesville.

A BIRD QUIZ

A traveller from Mars, during a recent visit to the Earth, was particularly interested to find living creatures able to fly through the air — a thing he had never seen on his home planet, though he was familiar with aquatic and terrestrial animals. On his return to Mars after a brief sojourn here, he set down an account of his experiences for the edification of his countrymen. Because his stay on the earth was short, his observations not always accurate, his deductions sometimes biased, his memory imperfect, and the information he obtained from men not always reliable (as he himself quickly discovered, but was unable wholly to remedy) — for all these reasons, his account of the earth and its life was a curious compound of truth and error. We quote below that part of his narrative which deals with birds, in a translation which endeavours to capture something of the spirit of the Martian text, though at the expense of elegance in the Englishh one. All measures of size, speed, etc. have been converted to our units.

You are asked to edit the traveller's remarks insofar as they pertain to birds and related topics (for he wanders at times from his subject), by underlining statements which you consider correct — regardless of what view he may express concerning them. To aid in this, the pertinent statements have all been numbered, and if you leave any such unscored, it will be assumed you consider them false. Please remember that the views expressed are those of the traveller, and not **necessarily** those of the translator. Turn to page—— for correct answers.

After concluding an account of insects, the narrative proceeds as follows:

"But the most astonishing flying creatures on this planet are those called birds, (1) of which there are more kinds than there are of insects, and (2) which are on the whole much larger than the latter, so much so that (3) the largest insect is smaller than the smallest bird. I have already remarked that the atmosphere on the Earth is dense and oppressive, and when a brisk wind was blowing I could scarcely stand erect, being used to our own more rarefied air. (4) It is this density of the air which has made flight easier on the Earth than on Mars. Even so, it seems remarkable that animals as large as are many birds should be able to fly. (5) The largest flying bird is the great auk, (6) of which some specimens attain about 40 pounds weight. (7) The larger birds however do not usually depend solely upon their own exertions to keep them in the air, but are very expert at taking advantage of any wind that may be blowing, (8) which wind however must be blowing in the same direction as they are travelling. (9) Smaller birds fly by rapidly beating their wings, (10) which they commonly do at the rate of 100 to 150 beats a second. Because (11) the air resistance to their wings increases as the cube of the wing's speed of motion, (12) they must find flight more difficult at speeds of 25 to 40 miles an hour than at lower speeds; nevertheless (13) 25 to 40 miles an hour is the range of speeds most used by ordinary small birds. I was informed that (14) speeds up to 200 miles an hour had been measured (15) for small birds called swallows, but (16) such a speed is obviously impossible.

« Answers on page 26.

(17) As with insects, the structure of birds has been profoundly modified to make flight possible, though (18) the two groups are basically quite different. (19) The wings are the external organs of flight, (20) and are worked by powerful muscles attached to a keeled bone ventrally, (21) which is called the coracoid bone. (22) The wing itself is in its underlying structure similar to the fore limbs of vertebrate land animals (23) but is modified by elongation of the 5th finger and suppression of all the others. Curiously enough, (24) the type of wing just described is found among a group of extinct flying reptiles, the peterodactyls, but (25) among the bats, or flying mammals, all fingers are rudimentary except the first and second. (26) Most birds have unusually long and flexible necks (27) which however are composed of only 7 joints or vertebrae. (28) Their jaws ordinarily lack teeth, but (29) teeth are still found among the Maoris of New Zealand, and (30) tooth-like serrations of the horny bill are found among ducks, (31) among herons, and (32) among cuckoos. Also (33) young birds of most species have an "egg-tooth" for cracking the shell of the egg in which they develop, and (34) this persists to adult life in the turkey, (35) which is a bird much domesticated by man in many parts of the earth, (36) though originally native to the country from which it takes its name.

Unlike other animals (37) birds have no true hair (38) or scales, but (39) for the most part they are covered by feathers, which (40) are complex structures, at once light, warm and (on the wings) of considerable strength. But whereas (41) a hair is a permanent structure, not renewed throughout the life of an animal, (42) feathers are moulted at least once a year, and (43) sometimes as many as 4 times a year. (44) Moulting occurs gradually, so that flight is not seriously impaired, at least in most birds; but it is said that (45) among the male ducks all the wing feathers are lost at once and the birds are for a time flightless. This however I regard as a tale told to confuse an unwary traveller, for the amusement of those better informed, and I give it no credence. For (46) the ducks in question are without good means of escaping their enemies, save only their power of flight, and (47) loss of the latter, even temporarily, would be a disability (48) which would ensure the speedy death of any bird so handicapped.

The habits of birds are of the most varied kinds, and their structure is correspondingly diversified. (49) Some kinds, called grebes, swim and dive in the water, and (50) have fully-webbed feet to accomplish this. (51) Loons are unable to swim, but have long legs for wading along shore. (52) Sandpipers frequent marshes chiefly, (53) as do rails (54) and grouse. Still others shun the water, and make their living on land, either in open fields, like the (55) larks, (56) warblers and (57) herons; or in brush piles and shrubbery, like the (58) catbird, (59) orioles and (60) wrens; or in the tops of forest trees, like the (61) vireos. (62) thrushes and (63) quail. Some obtain food by searching the bark or boring into the trunks of trees, and these are the (64) woodpeckers, (65) nuthatches and (66) weaver birds, as well as I can recall them. Others catch insects on the wing, like the (67) kinglets, (68) swallows, (69) goatsuckers and (70) phoebes. Others again seek larger prey, chiefly small birds and mamals, and these include the (71) osprey (72) Cooper's hawk (73) nighthawk (74) barn owl and (75) shrike.

In color too, birds are extremely varied, and among men it is proverbial that they match all the hues of the rainbow and others beside. (76) Some birds have the same color and markings as the ground they live on, so it is almost impossible to see them. (77) Others contrast most violently with their surroundings, and (78) still others are conspicuous when at rest, but most difficult to distinguish when moving. (79) Many times the male bird will differ from the female in color, (80) a situation never encountered among other animals, and (81) in all such instances it is the male bird which is the brighter of the two. These facts have been noted by men, and

have been the cause of endless dispute among them. Some say that (82) colors matching the surroundings were produced by the elimination of more conspicuous individuals in times past, by the birds' enemies, (83) as was held by a certain Lamarck. Others have contended that (84) a bird's desires will in some degree determine the color of its offspring, (85) as was first proposed by one Darwin, a sage greatly revered among men. Still others maintain that (86) color is wholly accidental, and neither the wishes of a bird's ancestors, nor the actions of their enemies, have had any part in determining it.

And here I may remark that (87) nothing is so characteristic of the discussions of men, as this same lack of agreement upon each and every point that may be under consideration. For this state of affairs I chiefly blame those men who, without sufficiently examining their subject, have set forth their views in books, which commonly contain the most egregious blunders. Nevertheless such books are widely read by old and young, and cause great confusion. Yet when I enquired of men of understanding why this should continue, they replied that it would be unwise to compile a body of authoritative knowledge, and that indeed such a task was impossible of achievement; (88) for not only may truth arise from a comparison of errors, but (89) many of those laws of nature and of society, which are now thought most firmly established, were at their inception considered absurd and pernicious. Of which arguments the reader may form his own opinion.

Much more than any animals mentioned earlier, birds are favored by man as an article of food. For this reason many of the larger kinds are kept in enclosures, as the turkeys already mentioned, and still more commonly (90) the fowl, (91) the goose, (92) the dodo; and many others. Wild birds too are used for food, though the methods of taking them could bear much improvement, and (93) far more energy is used by men in their pursuit than is recovered from the birds obtained. Or so it was when I accompanied such an expedition. It is said that (94) formerly wild birds were at once more numerous and less fearful, and (95) great numbers were caught and sold for food each year. In particular there was a certain passenger pigeon, (96) which appeared in aggregations so vast that they covered the face of the sun; (97) and, flying swiftly, it would often take many hours for one flock to pass a given point; while (98) when they rested, the boughs of the greatest forest trees were often broken by their weight. But when I enquired where such sights could be seen, they replied that (99) of all that horde, not one bird remained alive; and their reasons for its disappearance were so lame, that I concluded the whole account to be a fiction, of a piece with the exploits, given earlier, of their local hero Paul Bunyan. Of the same sort do I consider the reports that (100) some men eat a bird's nest, in preference to the bird itself; that (101) certain cormorants are valued for their dung rather than for their flesh, (102) and are raised on large farms on that account; that (103) a bird called the oil-bird is so fat that when a wick is drawn through its body, it can be lighted and serves as a candle; and that (104) an ungainly bird called the stork is looked on with much favour in some countries, as (105) it brings fertility to the occupants of the house upon whose roof top it may chance to nest. Yet some of these conceits are so bizarre, that their being the product of the imagination appears no less improbable than would their actual occurrence.

(106) Not the least remarkable habit of birds is that of making long journeys each year, to escape the cold of winter, or the scarcity of food at that season, or the long nights; though it has been shown that (107) neither cold nor increasing darkness will make a bird migrate, if he be given plenty of food. (108) On these journeys birds gather in great flocks (109) and commonly fly at elevations in excess of 2 miles above the Earth. It is said (110) the larger among them, such as cranes, will carry small birds on their backs over great lakes, seas and deserts, where they would

otherwise become exhausted. (111) Migrations take place principally from and to the polar and temperate regions of the Earth but (112) are more common in its southern half; and (113) no birds approach or cross the parallel of 0 degrees latitude in migration. (114) Even in cool regions, not all birds migrate: (115) some remain active all winter; (116) others seek refuge in caves, where temperatures are kept moderate; (117) still others plunge into ponds, and hibernate in the mud at their bottoms, with the frogs and turtles.

But I must conclude my discourse on birds ere I weary the reader, though I have not told half of the things which were related to me, or even of the ones (and they not the least wonderful) which I myself witnessed. For I would have doubted the report that (118) the pelican feeds her young with fish from a huge sac suspended from her bill, had I not myself seen (119) a woodpecker that pumped food from its own stomach to its offspring's (or so it appeared); and stranger still, I was assured with great earnestness that (120) doves feed their young with a milk-like substance (121) sloughed off from the lining of their mouth. Again, who would imagine that (122) there exist birds which take no care of their own eggs or young, this being particularly true of (123) a certain cowbird, and (124) all cuckoos; and that (125) when another bird finds such a strange egg in her nest, she usually accepts it with perfect confidence, though (126) by fostering it her own young generally perish.

Still, there are limits to what a critical mind may accept, and I have spared the reader many marvelous tales; as for example that of birds called parrots, which, so they say, (127) can speak as men do, and (128) carry on intelligent conversations. Or the tale of the phoenix, (129) which lives for 500 years (though that is little more than 250 of our Martian years), and (130) at the end of that time prepares is own funeral pyre, on which it is consumed. Or the tale of mound birds, (131) which gather together and make a huge pile of vegetation, of several tons weight, which after fermenting some months becomes hot inside, and then the birds lay their eggs therein, and leave them to be hatched by the warmth of decay. Or the tale of the crocodile bird, (132) which walks boldly into the mouth of a fearsome monster, and picks leeches from his gums. Or the tale of the cormorants (133) which are used for catching fish by men, a ring being placed about their necks to prevent them swallowing their prey. Or the tale of the penguins of the frozen seas, (134) which were transformed into men by the blessed Saint Mael, for so goes the story.

Such histories confirm our opinion previously given, that for the most part men are most gullible, and will believe any tale, no matter how absurd, and even though it be beyond reason and nature; and the greater the antiquity of such fables, and the less susceptible of proof, the more firmly do they cling to them. Beside which there are many among them who are great liars, eager to deceive their neighbors at every turn. So that, whether from innocence or from guile, the traveller will be deceived more often than not when he seeks for information; and in all discourse with men it is necessary to be most skeptical, and to check every opinion many times over."

W. E. Ricker, Bloomington.

ANSWERS TO QUIZ ON PAGE–23

Numbers 87-89 are left to the reader's judgment.

1. False. 2. True. 3. False. Certain tropical beetles are larger than the smallest humming birds. 4. True. 5. False. The great auk did not fly. 6. False. 7. True. 8. False. 9. True. 10. False. The **ordinary** rate is much less than this, though hummingbirds' wings beat even faster. 11. False. Air resistance increases more nearly as the **square** of the speed of wing

motion. 12. False. Really slow flight is very difficult for most birds. 13. True. 14. True. 15. False. The 200 mile speed was reported for a species of swift in India. 16. False. Such a speed is certainly remarkable, and confirmation would be desirable, but it cannot be said to be intrinsically impossible. 17. True. 18. True. 19. True. 20. True. 21. False. The correct name is the **sternum.** 22. True. 23. False. The elongated 5th (some say 4th) finger is characteristic of pterodactyls. 24. True. 25. False. The bat's finger bones are long and slender. 26. True. 27. False. Mammals mostly have 7 28. True. 29. True. 30. True. 31. False. 32. False. 33. True. 34. False. neck vertebrae, but birds have from 8 to 24, usually near the larger figure. 35. True. 36. False. 37. True. 38. False. 39. True. 40. True. 41. False. 42. True. 43. False. Three moults is probably the maximum number, while one or two are usual. 44. True. 45. True. 46. False. 47. True. 48. False. 49. True. 50. False. 51. False. 52. False. They are more characteristic of beaches or mud flats. 53. True. 54. False. 55. True. 56. False. 57. False. Although great blue herons at times feed in pastures, taking insects or possibly mice. 58. True. 59. False. Our native orioles are primarily birds of tall trees. 60. True. 61. True. 62. False. 63. False. 64. True. 65. True. 66. False. Our only local weaverbird (the house sparrow) does not often perch on the **trunks** of trees. 67. False. 68. True. 69. True. 70. True. 71. False. 72. True. 73. False. 74. True. 75. True, although shrikes take many insects. 76. True. 77. True. 78. False. 79. True. 80. False. 81. False. The female phalarope is more brightly colored than the male. 82. True. 83. False. Natural selection is associated with the name of Darwin. 84. False. No evidence supporting this view has been found acceptable. 85. False. Lamarck's statement of this view was much earlier than Darwin's time. 86. False. Very few scientists regard coloration as wholly haphazard. 90. True. 91. True. 92. False. 93. True. 94. True, at least of Indian native game birds. 95. True. 96. True. 97. True. 98. True. 99. True. 100. True. The nest of an Asiatic swift, formed from a hardened secretion of its salivary glands, is highly esteemed in certain Oriental countries. 101. True. The guanaye, a cormorant of Peru, produces guano which is used for fertilizer. 102. False They are of course sea birds. 103. True, of the nestlings at least. Their oil is more usually used for human consumption, however. 104. True. 105. False; though the superstition is widely held in Europe. 106. True. 107. False. Change in length of day is an important factor in determining migration. 108. True of most birds. 109. False. 110. False. There is no basis for this ancient belief, though it is not inconceivable that a small bird, near exhaustion after straying over a large body of water, might try to take refuge in this way, as they often do on boats. 111. True. There are fewer migratory species in the tropics, and their migrations are usually less extended. 112. False. 113. False. Quite a number of our birds migrate across the equator. 114. True. 115. True. 116. False. There is no basis for this belief or the next, though both formerly had wide credence, and gave rise to heated arguments in scientific journals. 117. False. 118. True. 119. True. 120. True. 121. False. "Pigeon's milk" is from the crop rather than the mouth. 122. True. 123. True. 124. False. The European and certain other cuckoos are parasitic nesters, but not the American ones. 125. True of most American birds when victimized by the cowbird. Most European birds are said frequently to reject a cuckoo's egg, though its resemblance to their own, in size and color, is often very close. 126. True. 127. True. 128. False. 129. False. 130.False; the legend of the Phoenix is probably no longer believed, even by the superstitious. 131. True. The Mound-builders are found in the Australian region. 132. True. The bird in question is a plover of the Nile. 133. True. 134. False. It would not be easy for our Martian visitor to detect that Anatole France's masterpiece, Penguin Island, was written in a vein of sustained biting satire, rather than as a serious historical narrative.

ORNITHOLOGY UNDER EISENHOWER

A Hoosier with the Fifth Army in North Africa should logically expect to be amazed at the many differences between this distant battleground and his peaceful homeland; actually he is frequently struck by the similarities. Tonight for instance, we are bivouaced in a wooded, rolling countryside quite reminiscent of our lovely Brown county in the spring. In like manner I find that the birds of the southern coast of the eastern Mediterranean differ only silghtly from the familiar birds of Indiana's woods and pastures.

The spring migration season coincides with that in the States (our latitude is about that of southern Indiana, remember). When we arrived, near the end of last year, I noticed but few birds. There were the usual Brown Gulls at the sea ports and English Sparrows, and all through the pastures a pure white bird similar to a Green Heron in size and shape. Everywhere I saw too the common **Cigognes** — Stork-like birds about the size of the great Blue Heron, white with black wing tips. They build great nest piles of sticks on the roofs of public buildings in cities and often nest in colonies on the huts of the Arab villages. I have seen them all over North Africa. Small Falcons and Swallows (we would call them Barn Swallows) completed my bird list through the middle of March .

The first spring bird of interest was the English Lark (noted, appropriately enough, at an RAF base in the Atlas Mountains), so frequently eulogized in the poetry of Shapespeare, Shelley and later English writers. This "blithe spirit" resembles our female Bobolink. Its famed song consists of an uninterrupted two minutes of bubbling melody poured out while the bird circles high in the air. In all friendliness toward our allies, I should say that their champion singer is matched by our male Bobolink, whose shorter song is yet richer in quality. And certainly he is more handsome!

With April have come the warblers and woodpeckers and field birds, flitting through the pine trees and moving along the bushy roadsides just like their American cousins. They are quite plainly colored, in fact neutral hues predominate. They all seem to sing, and long and cheerfully. A spring morning in Africa sounds so much like a spring morning along the St. Mary's or the Wabash that only the alert bird man could distinguish new notes in the sunrise chorus. Lying in my pup tent at dawn, I have heard bird songs of the last three weeks that have immediately suggested certain birds common in Indiana: Crow (this bird looks like our crow, too), Song Sparrow (a common song here). The whistle of the Cardinal, Indigo Bunting, House Wren (almost note for note!), Catbird, the alarm note of the Kingbird, Bluebird, the Kingfisher's rattle, Field Sparrow, Brown Thrasher (a rather thin version from a small brown bird that hitches around the

tree trunks like our Brown Creeper), the call note of the Flicker, Summer Tanager (a perfect copy), Chewink, and a great variety of high pitched trills and buzzes remindful of our migrating warblers.

So far in North Africa I have seen only one bird and heard only one other that were unusual enough to attract the attention of my companions. One morning we were eating pancakes in a cork tree grove on a hill overlooking the blue Mediterranean sea. Suddenly, a large, brilliantly colored bird bounded flicker fashion through the still woods. It was pure, bright yellow, with jet black wings, patterned like our Goldfinch. It brought an "OOOO-look at that!" from the soldiers.

And just recently we were wakened at sunrise by a chorus of European Cuckoos. To the amusement of the troops in the woods, they sounded exactly like Cuckoo Clocks!
T Sgt. Robert C. Geake, Fort Wayne and North Africa.

THE STATUS OF THE PRAIRIE CHICKEN IN INDIANA

Introduction

The title might be interpreted in the singular but I am pleased to state that the prairie chicken condition in this state has not yet reached that of the once lone heath hen of Martha's Vinyard, which is now but a memory.

Unless you have been in the mid-western states or in the northern part of Indiana probably you have not had an opportunity to observe living prairie chickens. Any bird lover would be thrilled by observing these very interesting birds.

This species Tympanuchus cupido americanus is especially interesting for several reasons: 1. It's former abundance in the state and value as a game bird. 2. Its close relationship to the now extinct heath hen. 3. Its economic value as game bird and as an insect and weed seed eater. 4. Its unusual mating ceremony.

Former Distribution in Indiana

In the past the greater prairie chickens were found in prairie areas throughout the northern part of the state and extending eastward into northwestern Ohio. The heavier population was in the central and northwestern parts of the state, but a few birds were found as far south as Daviess, Pike and Gibson Counties.

I am indebted especially to my predecessor, W. E. Madden for some of this information and for the following extract from

his record in the July 1, 1942 Pittman-Robertson 2R Quarterly Progress Report.

"The report of Commissioner Miles in 1912 showed that twenty-eight counties reported having prairie chickens and that there were at least 100,000 birds in the state at that time. The shooting season has been closed since 1909 and Mrs. Miles points out that this is probably the reason for the increase in the population. The season was again opened in 1915.

"One report from Benton County indicates that prairie chickens were very numerous until the late 1890's. Seventy-three prairie chickens were killed in one 12 acre oat field in 1894. However, intensive cultivation soon deprived the prairie chickens of their habitat in this county. In the spring of 1942 only one booming ground was located and reported.

"The prairie chickens were driven from the prairie areas by fire, grazing and cultivation. The practice in the earlier days was to burn the prairie in the early spring to get rid of the dead grass and to hasten the growth of new grass. This practice was responsible for the destruction of a great many nests developed from cultivation, grazing decreased but much of the prairie grass (Panicum virgatum) was destroyed by the plow. The prairie chickens retained their original range for some time but the flocks gradually decreased in number and size.

"The old Kankakee River was at one time the haven for wildfowl and marsh loving birds and mammals. The river proper was slow and very crooked with the valley marshy and too wet to cultivate or graze. During World War I and the period immediately following it the river was straightened and the marshes were drained for cultivation purposes. The Beaver Lake area had been previously drained but was further drained at this time. Much land was reclaimed and part of it was very fertile, but some of the drained area was not suitable for agricultural purposes.

"Approximately fifteen square miles of the Beaver Lake area were not grazed or cultivated and typical prairie vegetation soon took possession of the site. The soil was of a fine sandy nature and very low in fertility and was too wet in the spring for grazing purposes. This area was later to become the final concentration point of prairie chickens in Indiana.

"The shooting season was open on prairie chickens in Indiana until 1936 when the season was closed for a five year period. This did not result in any marked increase in the population so the closed season was again renewed in 1941 for another five year period."

Since that time records have been kept on seven flocks. Following the cessation of legal hunting, a slight increase was noted

then a gradual decline in most flocks and in the total.

Present Distribution and Population

In 1942 Mr. Madden took a census of the birds on their booming grounds and located thirty-three flocks in seven of the northwest counties. Twenty of these flocks were found in Newton Co., Six in Jasper; two in Pulaski and Lake; and one each in Benton, Porter, and Warren counties. The Newton and Jasper flocks averaged larger than the others with about 16 birds on the booming ground. The total birds observed were 450 of which only 12 were females. On the basis of a 50-50 sex ratio its was assumed that there were some 900 prairie chickens in Indiana.

This spring of 1943 I have been locating booming grounds and taking a census of the birds observed. At this date the work is not quite complete, therefore I can present only tentative figures at this time.

Some of the flocks reported in 1942 have not been located this year and local residents have neither seen nor heard them. This may indicate a shifting of the birds to another locality as a result of additional drainage or cultivation of their former habitat. Other flocks of long standing not known to the previous investigator have been found, and should the investigation be continued, a few additional isolated flocks will probably be reported.

As false and obsolete reports are eliminated and as familiarity with the territory, and acquaintance with local observers improves, the problem of censusing should be simplified.

At present flocks are known to be in 7 counties. These include the counties reported in 1942 plus White County. There are approximately 35 known flocks with a male population of approximately 400. By using the 50-50 sex ratio one arrives at a total population of about 800.

The main concentration of prairie chickens is in McClellan and Colfax Townships in Newton County. On the booming ground of the largest flock, 50 males and 8 females were counted. Other large flocks are in the neighboring sections of the old Beaver Lake area. More specifically the larger flocks are residents of about four sections of one ranch. Here only does the population density approach that of former years.

Habitat

The prairie chicken as its name implies is very definitely a bird of the open prairie, brushy grasslands, and is associated with large areas not too close to habitation. It is now found mainly on the large farms or ranches, particularly where there are permanent pastures of over one hundred acres. The largest flocks are in prairie grass and sedge in the uncultivated por-

tions of the Beaver Lake region.

The booming grounds have been found in switch grass, blue grass, winter wheat, soybean stubble, red clover, oat stubble, wheat stubble, and on plowed ground, usually near water which may be in a ditch, marsh, slough, or pond.

Predation And Limiting Factors

Little actual evidence of predation has been secured, though the natural enemies prevail in the presence of foxes, coyotes, hawks and a long list of mammals, birds and reptiles, recognized as enemies of ground nesting birds. In 1939 in White county a hawk was seen with a freshly killed chicken. This spring I found remains of one chicken which apparently had been victim of a coyote. Remains of two have been found by other observers. One had probably been killed by a mink; the other by a coyote or fox.

It is common report among farmers and sportsmen that as the pheasants increased the prairie chicken decreased. Although some evidence has been accumulated showing the predatory nature of the pheasant, simultaneous with this rise of the pheasant there has been a much greater factor at work. Additional marsh land has been drained, more of the chickens' former habitat has been cultivated. The plow destroys nest, eggs, and habitat.

One Newton county farmer reported finding over 20 prairie chickens of one flock dead about eight years ago. These may been killed by a local disease or possibly a poison.

Occasionally one learns of hunting without regard for law, season, or species. Unfortunately the chickens are none too far from the metropolitan area.

Winter Flocks

In the fall and winter both sexes of birds of a given area will band together in what is known as a winter flock. In the winter 1941-42 Mr. Madden had record of eight winter flocks, totaling 179 birds and ranging in number for 14 to 41.

Booming Grounds

Early in the spring the winter flock may divide into smaller flocks, each selecting its booming ground which is a preferred spot usually a point of vantage, frequently an area slightly higher than the surrounding ground. In the spring, mornings and evenings the males may be heard booming and seen in their various interesting maneuvers. The most ardent booming is during the months of March and April, though it may begin late in February and extend throughout May. The earliest record of booming in 1942 was February 24, and in 1943 February 18.

The birds roost on or near the booming ground and before dawn, begin their booming. Some call it drumming but most of the residents call it booming. It is like a low toned booh-ah-booh.

This can be heard on favorable mornings about two miles.

After viewing these birds at distances usually upwards of 100 yards let us go into our observation blind before dawn and observe at close range a large flock of these very interesting birds. We hear their distant booming and as we approach we note the similarity to the sound of a swarm of bees greatly amplified.

In the early light we see them resting on the ground or moving about or selecting opponents. As the daylight advances their activity increases and we are able to better see our hosts. These chicken like birds are about the size of a hen pheasant but have a dark, short, flat rounded tail. Their color is soft brown barred with white quite like the Plymouth Rock Chicken.

The cock has two long neck tufts which he raises. Beneath these are orange colored air sacs which he inflates at will to about the size of an orange cut in half. Then with head lowered, tail raised vertically and spread turkey-like, and wing primaries separated until the tips almost drag the ground, he is ready to strut, boom, dance or charge an opponent.

Frequently these charges terminate in a clash and a genuine cock fight, but more often one bird steps backward or they just booh at each other. Sometimes when close together they will alternately advance a few steps forward as the opponent steps backward, then backward as the opponent comes forward, much like a step of the "Merry Widow Waltz". A cock may separate from the others and booh by himself, charge an imaginary foe, jump into the air spasmodically with a flopping of the wings much as if he were shadow boxing.

In the charge sometimes short rapid steps are taken. Sometimes this double time is done in one place and at close range the patter is plainly audible. Sometimes the patter is accompanied by turning which reminds one of a mechanical toy jigger.

During the observation there are periods of resting and periods of activity. The sparring partners will be dismissed from time to time and a new one attacked. Frequently they rest on the ground facing each other and with a "chip on their shoulder". There always seems to be at least one in a flock standing with head high, on the alert.

The hens slightly smaller, with rudimentary neck tufts and air sacs are quiet, reserved and may occasionally be seen in the taller grass about the periphery of the booming ground. A hen may decide to fly into the arena. Immediately it becomes a scene of activity. Whenever a hen is present on the booming ground the males try to outdo each other with their booming, strutting, fighting, and their pattering. Many of them trying at the same time to make a display before the hen and keeps the rivals away.

As the day progresses the cock birds concern themselves less with fighting and booming. Some may leave the booming ground. During the last half of the morning and the first half of the afternoon they will feed rather peacefully.

If we are obliged to leave the blind the remaining birds will flush. They rise rapidly into the air and fly almost horizontally with unexepected ease for a bird of such proportions. Wing flapping alternated with sailing, carries them considerable distance.

Summary

The greater prairie chicken was once so abundant in the northern part of this state that people thought no more of going out to get a few chickens than they would now of killing a barnyard fowl.

Hunting was checked and even stopped by true sportsmen, but the advance of the dredge, the plow, the consuming fire, and grazing cattle, accompanied by the various natural enemies of ground nesting birds, still continue and are literally running them out of the state. In fact the main flocks are but a few minutes flight from the state line.

In 1912 Indiana had the low figure of 100,000 birds; in 1942 less than 1,000. There are now some 800 birds left in the state. May they have many successful broods this summer and may we not overlook the challenge to consider establishing refuges or sanctuaries before this species becomes only a memory in Indiana.

O. D. McKeever, Rensselaer.

PLANNING FOR POST-WAR CONSERVATION OF BIRDS

Habitat Studies:

To say that we are fighting the Axis powers to preserve our American birds might surely sound absurd. To preserve our freedom, our American soil and our way of life constitutes quite a perplexity of human thought. We mean to preserve all things, inspirational, aesthetic and economic which contribute to the welfare of the American people. It is a distinct challenge to those of us on the home front to do some intelligent planning for the conservation of birds and other wildlife. While few people realize it, our wildlife along with the soil, waters and forests constitute a dwindling heritage, — one which we must preserve and rebuild.

My first urgent appeal would call for greater scientific research into this subject of the habitat relationship of birds. Let us consider the story of the Ivory billed woodpecker.

For fifty years the Ivory bills have been on the road to extinction. In 1920 they were given up as gone. In 1932 a few individuals were reported as having been located in Louisiana. Arthur A. Allen, of Cornell University, sought them out, succeeded in photographing and recording the voices of a few of the birds.

Hope was inspired that the Ivory bills might be saved. But a lack of knowledge of the bird's habits and habitats thwarted the preliminary efforts to effect an intelligent program of conservation. To find a solution, the National Association of Audubon Societies provided a research scholarship at Cornell. E. T. Tanner, a graduate student in ornithology, spent three years, 1939 to 1941, investigating the Ivory bill throughout its known range. He did not find many of the birds, estimated the numbers remaining at twenty four. He was able however, from data gathered to determine the essential environment it will be necessary to provide if the birds are to be saved.

Above all this environment is the virgin cypress forest of the southern coasts. Second growth forests will not do. In order to survive, the Ivory bill must have wood-boring insects that are found only in dead and dying trees found in sufficient quantity in virgin growth. Its disappearance from region to region, Mr. Tanner's record shows coincides very closely with the cutting of virgin forests.

The most suitable remaining refuge in northern Louisiana is an uncut section of virgin timber owned by the Singer Sewing Machine Company, and now due to the stress of war it is contracted for and lumbering threatens this wild and remote retreat.

Consider the forest, its thicket borderland, the stream bank,

the cattail marsh and the meadow. Each is like a city of mammals, birds and insects. Each requires the constant services of its dwellers to keep it in proper balance of health and repair.

You who take periodic bird walks along well defined routes know when and where you will encounter certain birds. The oriole and the vireo may be found in some tall cottonwood. A low protruding snag may greet you with the sight of a busy pair of prothonotary warblers. The snow covered woodland shelters goldfinches ,chickadees, tree sparrows and juncos.

In the open fields the meadowlark, bobolink, quail, field sparrow prairie horned lark or dickcissel each adds its economic blessing to the interdependence of the life of the prairie.

As you wander along the customary trail some day you may suddenly realize that things have changed. Where are the birds you once found? Timbered forests, eroded hillsides, winding highways and bridges alter the landscape. Your thoughts shift now from mere enjoyment, from the aesthetic to the real and practical understanding that something must be done. It is the story over again of the Ivory bill. Without some scientific understanding of habitat and its relation to birds you are totally unprepared to provide the proper solution.

An effective program of conservation is all embracing. It is an all inclusive problem. All our Indiana soil should be productive. Rain washed gullies, fallow fields, drained swamps and burned over forests cannot be expected to support and maintain a natural community of birds, mammals and insects. Are you interested only in birds? If so, your interest deserves to become greatly enlarged. For birds cannot survive without a supporting kind of vegetation. It is of course a technical problem for the scientists which needs your whole hearted support.

Sanctuaries and Refuges

Wildlife refuges are generally considered as land and water areas set aside and definitely managed for the protection and preservation of one or more species of native fauna. Such land areas are frequently established and correlated with land management programs which are undertaken also for other and all conservation purposes.

Indiana state parks, forests and game preserves all stand as individual monuments to a wise land use practice within our state. Nowhere on private land has there been any better administration of the fundamental needs for all kinds of conservation. Erosion control, reforestation, restoring of marshlands and food plantings have all received attention.

The downward, wheeling whistle of the veery at the Dunes state park, the sight of the nesting prairie warblers at McCormicks creek, an occasional glimpse of the pileated wood-

pecker at Spring Mill, Brown County or McCormicks creek are but a few of the examples which attest to the value of public parks to the conservation of the non-game species.

In a program of post-war planning, the Audubon Society can assign itself a definite obligation in relation to the state owned properties. Our cooperation with every conservation organization in the state should wield an influence that will continue to bear fruit.

In addition to what has been accomplished, there are still some valuable projects that could be effected. Every Indiana roadside is a potential bird refuge. Roadside trees have been planted, not with the thought of providing a nesting site for any bird, but for other conservation reasons. By the same token, much of the state road property could be planted in food producing plants which would lend encouragement to the birds. And above all, great areas of roadside land could be left unmowed to provide additional nesting sites and cover for many of our non-game birds. No more mowing need be done than will meet the standards of safety along the highways.

A good post-war blueprint should not neglect the private landowner. We cannot ask the farmer to set aside a refuge on the basis of our love of birds alone. With proper educational facilities we can help to inculcate wise land management and corrective conservation practices which will ultimately benefit the birds.

Our state society has acquired the Mary Gray Bird Sanctuary. This is our golden opportunity. At no time in our past history have we been confronted with a more serious obligation. Every step taken should be well conceived aforehand, that our efforts will prove the value of proper land management. Expert counsel should be consulted that we may attain our desired goal, that of providing a bird haven. There is no reason to doubt that the society will exercise the greatest sincerety of purpose in the administration of this new venture. It shall be a fitting monument to the memory of those who have placed their trust in us.

Cooperation and Education

Conservation is a little like religion. There are many approaches although the final goal is the same. There are many interpretations. Too frequently we are too befogged by our own interests to keep our vision focused on the Utopian principle.

There are many organizations devoted to the theme of conservation. In almost every case, if a panel discussion could be held, we would find that we are all riding along in the same coach.

The great plan of nature, if undisturbed, eventually leads toward a consummation of some kind of an established biotic community. Man has been the greatest disturber of all of nature's uncharted blueprint.

That is why it is to be desired that all our post-war planning should foster a spirit of cooperation. Education is fundamental to this kind of planning. Among all the organizations devoted to the theme of conservation an education of basic principles must be the guiding spirit.

Our state society must cooperate with the National Association of Audubon Societies. The National Association must cooperate with the states. State conservation departments need to cooperate with the Audubon societies and we must reciprocate. The sportsman, farmer, fisherman, industrialist and bird lover must get together. There will need to be a co-mingling of the great fraternity of devotees of the out of doors. And again, there will be the necessity of planning founded upon the best scientific information available, to plan a happy future for our land.

As Paul B. Sears says, in his "The ABC of Conservation" — Besides the sportsmen, there are surprising numbers of those who are fond of birds and wild flowers. These people, too, were distressed at the disappearance of many beautiful forms, once common. And their first step was to have laws passed protecting song birds and even the forbidding of picking certain wildflowers. But like the stocking of fish and game, these laws did not get at the real trouble. The land had been so changed within a few generations that the home of rare birds and plants, like those of fish and game, had been destroyed. Now we know that sportsman and nature lover must work together. Indeed, there is no reason why one person should not be both.

It is believed that the time is opportune for such a program of planning. Every worthwhile out door organization is now directing attention to the whole field of conservation. The National Association of Audubon societies, the American Forestry Association, the American Museum of Natural History, the American Nature Association, the National Association of Biology Teachers and the Isaak Walton League of America are leading examples. All publications emanating from these sources are definitely laying the educational groundwork in the entire conservation effort.

There is one more matter which should certainly be earmarked for education. There will be a great need, following the peace, for post-war rehabilitation of man power. Next time it is to be hoped that unnecessary and even harmful improvements shall be avoided, which would have the effect of throttling streams and destroying valuable fisheries resources. The build-

ing of unnecessary roads into unspoiled areas, the drainage of lakes and marshes should be guarded against. Good intentions in the public works effort do not compensate for a lack of adequate knowledge. There should be competent biological representation on every public works committee and commission.

Membership in the Audubon Society

What can we as members of the state Audubon society contribute to a post-war plan for the conservation of non-game birds? While a number of suggestions have already been proposed we should first of all become concerned with building up our membership.

During the past year we have had less than 250 members. The biology departments of less than half a dozen of our state colleges and universities have been represented. There are many more people in the state that are interested in birds and conservation. Our membership represents a mere pittance in comparison to other conservation organizations within the state.

It should be the concern of all of us to re-vitalize our districts and formulate plans for activities which will attract new members. Enthusiasm is contagious. Many local projects could be sponsored which would create interest in local bird life. More could be accomplished through a positive attitude than the usual negative one. By fostering a spirit of cooperation with all worthwhile conservation activities we shall become a partner to developing the necessary leadership for genuine post-war results.

It would be well to pay particular attention to a plan of education in our schools. It is gratifying to mention the work of one of our members, Mr. Alden Hadley, working jointly with the Audubon Society and the Indiana Department of Conservation. One man however, cannot do a full job. Nearly every city school system can use the services of a man like Mr. Hadley, for a month to six weeks at a time, — to say nothing of the rural county schools. There should be a leader in each community who can speak to children's groups on the conservation of non-game birds. It is our obligation as an effective society to develop such leaders.

A short time ago, while walking near the city limits of Fort Wayne, I happened to meet four small boys with air rifles. Each time a bird would alight in a nearby bush or tree all the air rifles pointed in one direction like a miniature firing squad.

"What are you shooting," I asked, upon noting that the boys were all shooting in the direction of a chickadee.

"Sparries," came the reply.

"Those are not sparrows," I told them.

With an extremely worried expression, they all chimed in

chorus, "How can you tell sparries"?

"When you see a small gray bird, with a black skull cap and black bib, hanging upside down on a limb saying chick-a-dee-dee-dee, you will know it is not a sparrow," I informed them.

This is but one example of the value and need for education.

Finally, perhaps it is not amiss to suggest that we do all within our sphere to keep up on the trend of conservation. In busy times like these it is difficult to find time to study birds and read as much as we would like. Sometimes a new book like "Fading Trails", by a Committee of the Fish and Wildlife Service, "Wildlife Conservation" or 'Wildlife Refuges", by Gabrielson, or "The Plant World" by Platt is just the kind to give us a renewed enthusiasm. Many other books and periodicals could be mentioned which are certain to stimulate.

What we as bird lovers all hope for is continuation of the great American scene which we have known since childhood. That we may always find places to roam where we may pursue our hobby with the satisfaction that all is well. Such a scene is brilliantly expressed for the month of May, as we know it, in the poem, "The Mockingbird," by Joseph Rodman Drake:

Early on a pleasant day,
In the poet's month of May,
Field and forest looked so fair,
So refreshing was the air,
That, in spite of morning dew,
Forth I walked where tangling grew
Many a thorn and breezy bush;
When the redbreast and the thrush
Gaily raised their early lay,
Thankful for returning day.

Every thicket, bush, and tree
Swelled the grateful harmony:
As it mildly swept along,
Echo seemed to catch the song;
But the plain was wide and clear,—
Echo never whispered near,
From a neighboring mocking-bird
Came the answering notes I heard.

Soft and low the song began;
I scarcely caught it as it ran
Through the melancholy trill
Of the plaintive whip-poor-will,—
Through the ringdove's gentle wail,
Chattering jay and whistling quail,
Sparrow's twitter, catbird's cry,
Redbird's whistle, robin's sigh;
Blackbird, bluebird, swallow, lark,
Each his native note might mark.

It is my belief that our post-war planning must envisage all the aspects of conversation if we are to obtain the desired results for the benefit of non-game birds. It is hoped that a panel discussion such as this will serve as a worthwhile beginning, that our viewpoint will be broadened, and that we shall ultimately reap the benefits for which we are striving.
Howard Michaud, Fort Wayne

THE FEDERAL WILDLIFE RESEARCH PROGRAM IN INDIANA

Wildlife research in this state is made possible through the cooperation of the U. S. Fish and Wildlife Service and the Indiana Division of Fish and Game. This work is conducted with Pittman-Robertson or Federal Aid to Wildlife funds made available by a ten per cent excise tax on the sale of firearms and ammunition. The federal aegncy contributes seventy-five per cent and the state twenty-five per cent of the appropriations. These funds can be spent for land acquisition, development, and research, providing the prime objective is wildlife restoration. Indiana has made expenditures for all three purposes, including acquisition and development of the Hovey Lake State Game Preserve, acquisition of additional acreage at the Jasper-Pulaski State Game Preserve, purchase of white-tailed deer for release in southern Indiana, establishment and development of wildlife habitat areas, and initiation of wildlife research.

The purpose of the wildlife research project is to survey and appraise the game population; to determine the present and recommend for the betterment of habitat conditions, to determine the factors that limit game species and to devlop wildlife management practices which can be most effectively coordinated with agricultural practices.

In order to prosecute these investigations on a statewide basis six districts have been established in different farming areas of Indiana. A trained wildlife technician is located in each district. In addition, a technical investigator with headquarters at Purdue University, is assigned to special studies in connection with the Wildlife Research Laboratory at that institution.

One or more special studies have been assigned to each district in accordance with the indigenous game species or outstanding problems existing in that territory. In northwestern Indiana waterfowl, fur bearers, and prairie chickens are receiving major attention. The ring-necked pheasant in northeastern and the cottontail rabbit in north central Indiana are being studied. The bobwhite quail in the southwestern part of the state and fox and gray squirrel and ruffed grouse in the south central hill section are being investigated. In the southeastern section a study is

being conducted on predators and the effects of the wildlife habitat areas on the increase of game populations.

Probably the research work on waterfowl and upland game birds will be of most interest to the Indiana Audubon Society. This had included nesting studies, survival of artificially propagated pheasants and quail, sex ratios, and other information necessary for wise game management.

The breeding habits of upland game birds are especially interesting and vary among the different species. Quail and Hungarian partridges will generally pair off (according to weather conditions) between April 15 and May 15.

During the past two summers detailed examinations have been made of 47 pheasant and 140 quail nests. In a normal year about six out of every ten nests are unsuccessful due to mowing operations, predators and man. Due to this high initial loss of nests these two species of birds, especially the quail, will make repeated nesting attempts so that it is not uncommon to find nests and young chicks as late as September. However, one may often hear bobwhites whistling during late March and early April. Contrary to the monogamous habits of the Quail and Hungarian partridge we find the ringneck pheasant to be polygamous. A cock bird will set up a crowing area along some fence row or woods border and attract several hens to his harem.

The fertility of eggs produced by wild birds is high and a hatching percentage above ninety per cent results for eggs in successful nests. Both pheasants and quail average about fourteen eggs per clutch. As many as twenty-six eggs have been found in one quail nest, while nineteen eggs is the highest for pheasants.

Other miscellaneous nesting records, too numerous to mention, have been collected for the Hungarian partridge, chukar partridge, Canada goose, mallard duck, various hawks and other species.

The life span of most game birds is less than two years. Examination of quail taken during the open season reveal that eight out of every ten are juveniles.

The Division of Fish and Game, through its Pittman-Robertson projects and other activities, is profoundly interested in all types of wildlife. It is not interested in depleting the populations of any game bird or mammal, but rather in the harvest of the annual surplus that otherwise would perish from other decimating factors. Thousands of quail and pheasants are propagated and released each year; game preserves are created for the protection and increase of wildlife, where the ornithologist will find a wealth of species to study; wildlife habitats, varying from two to ten acres are located in nearly every county of the state. Wildlife practices for the improvement of game species benefit songbirds and result in a better balance of the flora and fauna of Indiana.

Wm. B. Barnes, Indianapolis

EDITORIAL NOTES

It is with considerable regret that the editorial committee has to reduce our Year Book this year to its present size due to war time rising costs of printing. We have numerous manuscripts on file that are worthy of publication; however we are compelled to hold them for future issues. As well as these, the answers to the questionnaire, the roster and the report of the Annual meeting are also withheld.

It has been suggested that the society adopt a suitable book plate for use in our future library accessions. If you have any suggestions please pass them on and they will be submitted to the board of directors before a final essay is adopted.

The check list has been brought up to date and a hypothetical list also added. They can be secured by sending your order to the sec'y in packages of 50 for $1.00.

EASTERN RAVEN REPORT FOR INDIANA

On May 25, 1943, Mr. L. C. Nicholson, R. R. 15, Lawrence, Indiana, reported having seen two ravens, in the vicinity of his home for a period of approximately three weeks.

The ravens, on many occasions, had visited his poultry yard and killed several chickens. In one instance, Mr. Nicholson actually saw one bird eating one of the chickens. It appeared that its first act was to sever the head of the fowl and then eat into the breast.

Mr. Nicholson shot one of the ravens, and from his description of the bird, it undoubtedly was not a crow. The over-all wing-spread was 38 inches and total length 24 inches. The feathers on the throat were ruffed and lengthened.

Chapman lists the American raven, Corvus corax sinualus, as probably occurring as far east as Indiana. This record for this bird in Marion County is quite interesting. The A. O. U. C. L., 1931 lists the raven found in Indiana as the Eastern Raven, Corvus corvus europhilus.

Wm. B. Barnes, Indianapolis.

UNIVERSITY OF ILLINOIS-URBANA
598.206IND C001
INDIANA AUDUBON QUARTERLY. INDIANAPOLIS
1943
3 0112 017813541

UNIVERSITY OF ILLINOIS – URBANA
N3011201781354 1A